

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-8. (Canceled)

9-11. (Canceled)

12. (Currently amended) A method for identifying an agent that interacts with an active site of a beta-amyloid precursor protein (APP) binding protein or peptide, the method comprising:

providing a crystalline composition comprising Beta-site APP Cleaving Enzyme (BACE);

determining the three dimensional structure of BACE;

generating a three dimensional model of an active site of ~~an APP binding protein or peptide using~~ BACE, wherein the model comprises the relative structural coordinates according to Figures 1A-1EEE of amino acids SER71, GLY72, LEU91, ASP93, GLY95, SER96, VAL130, PRO131, TYR132, THR133, GLN134, ILE171, ILE179, ILE187, ALA188, ARG189, PRO190, TRP258, TYR259, ASP284, LYS285, ASP289, GLY291, THR292, THR293, ASN294, ARG296 and ARG368, \pm a root mean square deviation from the backbone atoms of said amino acids of not more than 1.5 Å; and

identifying an agent using the three dimensional model; ~~and~~

~~obtaining the agent.~~

13. (Original) The method of Claim 12, wherein the \pm root mean square deviation from the backbone atoms of said amino acids is not more than 1.0 Å.

14. (Original) The method of Claim 12, wherein the \pm a root mean square deviation from the backbone atoms of said amino acids is not more than 0.5 Å.

15. (Previously presented) The method of Claim 12, wherein the agent is identified by performing computer fitting analysis of the agent with the three dimensional model.

16. (Currently amended) The method of Claim 12, further comprising contacting the agent with ~~the APP binding protein or peptide~~ BACE in order to determine the effect the agent has on ~~the APP binding protein or peptide~~ BACE.

17. (Canceled)

18. (Currently amended) The method of Claim ~~17~~ 16, wherein the agent is a potential inhibitor of binding between BACE and APP.

19. (Previously presented) The method of Claim 18, further comprising contacting the agent with BACE in the presence of APP.

20. (Currently amended) A method for identifying an agent that interacts with an active site of a beta-amyloid precursor protein (APP) binding protein or peptide, the method comprising:

providing a crystalline composition comprising BACE;

determining the three dimensional structure of BACE;

generating a three dimensional model of an active site of ~~an APP binding protein or peptide~~ using BACE, wherein the model comprises the relative structural coordinates according

to Figures 1A-1EEE of amino acids LYS70, SER71, GLY72, GLN73, GLY74, TYR75, LEU91, VAL92, ASP93, THR94, GLY95, SER96, SER97, ASN98, TYR129, VAL130, PRO131, TYR132, THR133, GLN134, GLY135, LYS136, TRP137, LYS168, PHE169, PHE170, ILE171, ASN172, SER174, TRP176, GLY178, ILE179, LEU180, GLY181, ALA183, TYR184, ALA185, GLU186, ILE187, ALA188, ARG189, PRO190, ASP191, ASP192, ARG256, TRP258, TYR259, TYR283, ASP284, LYS285, SER286, ILE287, VAL288, ASP289, SER290, GLY291, THR292, THR293, ASN294, LEU295, ARG296, GLY325, GLU326, ARG368, VAL370, LYS382, PHE383, ALA384, ILE385, SER386, GLN387, SER388, SER389, THR390, GLY391, THR392, VAL393, GLY395, ALA396 and ILE447, \pm a root mean square deviation from the backbone atoms of said amino acids of not more than 1.5 Å; and

identifying an agent using the three dimensional model; ~~and~~
~~obtaining the agent.~~

21. (Currently amended) The method of Claim ~~18~~ 20, wherein the \pm a root mean square deviation from the backbone atoms of said amino acids is not more than 1.0 Å.

22. (Original) The method of Claim 20, wherein the \pm a root mean square deviation from the backbone atoms of said amino acids is not more than 0.5 Å.

23. (Previously presented) The method of Claim 20, wherein the agent is identified by performing computer fitting analysis of the agent with the three dimensional model.

24. (Currently amended) The method of Claim 20, further comprising contacting the agent with ~~the APP binding protein or peptide~~ BACE in order to determine the effect the agent has on ~~the APP binding protein or peptide~~ BACE.

25. (Canceled)

26. (Currently amended) The method of Claim ~~25~~ 24, wherein the agent is a potential inhibitor of binding between BACE and APP.

27. (Previously presented) The method of Claim 26, further comprising contacting the agent with BACE in the presence of APP.

28-32. (Canceled)

33. (Currently amended) The method of claim ~~12~~ 35, wherein obtaining the agent comprises synthesizing the agent.

34. (Currently amended) The method of claim ~~20~~ 36, wherein obtaining the agent comprises synthesizing the agent.

35. (New) The method of claim 12, further comprising obtaining the agent.

36. (New) The method of claim 20, further comprising obtaining the agent.